

**For Honor or for Profit?
An Experiment on Recruiting Traditional Health
Practitioners for Formal Healthcare in
Guinea-Bissau**

Brais Álvarez-Pereira

Nova SBE, and NOVAFRICA

Mattia Fracchia

IE University, IE Business School, and NOVAFRICA

Teresa Molina-Millán

University of Alicante, and NOVAFRICA

Pedro C. Vicente

Nova SBE, BREAD, and NOVAFRICA

ISSN 2183-0843

Working Paper No 2502

March 2025

NOVAFRICA Working Paper

Any opinion expressed here are those of the author(s) and not those of NOVAFRICA. Research published in this series may include views on policy, but the center itself takes no institutional policy positions.

NOVAFRICA is a knowledge center created by the Nova School of Business and Economics of the Nova University of Lisbon. Its mission is to produce distinctive expertise on business and economic development in Africa. A particular focus is on Portuguese-speaking Africa, i.e., Angola, Cape Verde, Guinea-Bissau, Mozambique, and Sao Tome and Principe. The Center aims to produce knowledge and disseminate it through research projects, publications, policy advice, seminars, conferences and other events.

NOVAFRICA Working Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the author.

For Honor or for Profit?

An Experiment on Recruiting Traditional Health Practitioners for Formal Healthcare in Guinea-Bissau*

Brais Álvarez-Pereira[†] Mattia Fracchia[‡] Teresa Molina-Millán[§] Pedro C. Vicente[¶]

March 6, 2025 – PRELIMINARY

Abstract

Sub-Saharan Africa still lags behind in most health indicators. At the same time, Traditional Health Practitioners (THPs) are central to healthcare in these countries. They are accessible, share the population's traditional beliefs, and operate private businesses. We follow the recruitment of THPs to be trained and work akin to Community Health Workers in the formal healthcare system. We randomize messages regarding the program benefits: in one version we underline the pro-social benefits (honor); in the other we emphasize the pro-business benefits (profit). We find that the pro-business message increases THPs' behavioral interest in the program relative to the other message, consistently with their perceived benefits of the program. This difference is driven by less religious THPs and those with previous collaborations with the formal healthcare system. Profit is likely to be a main motivator for the integration of THPs in the formal system.

JEL codes: O12, D83, D91, I15.

Keywords: Community Health, Traditional Medicine, Traditional Health Practitioners, Community Health Workers, Field Experiment, Guinea-Bissau, Africa.

*We thank conference participants at NOVAFRICA and the Spanish Workshop in Development Economics (Navarra) for their helpful comments. We are grateful to a large number of individuals who have made this project possible. First of all, we thank the Ministry of Public Health of Guinea-Bissau, in particular Pedro Vaz, and UNDP, in particular Gheorghe Ionita, for institutional support. We are also grateful to Yesica Jerez, Filipa Reis, Aliu Bá Jau and Anita Monaco for excellent field coordination. We also convey a word of appreciation to all enumerators we worked with in this project. We acknowledge funding from UNDP. Ethics clearance was given by Universidade Nova de Lisboa. The study was pre-registered at the American Economic Association with the reference AEARCTR-0015052. All remaining errors are our responsibility.

[†]Nova School of Business and Economics, NOVAFRICA. Email: brais.pereira@novasbe.pt.

[‡]IE University, IE Business School, and NOVAFRICA. Email: mattia.fracchia@ie.edu.

[§]University of Alicante, NOVAFRICA. Email: teresa.molina@mscloud.ua.es.

[¶]Nova School of Business and Economics, NOVAFRICA, BREAD, and CEPR. Email: pedro.vicente@novasbe.pt.

1 Introduction

Sub-Saharan Africa faces the highest rates of maternal and child mortality worldwide. Despite a recent substantial global decline in maternal mortality, this region still accounted in 2020 for around 70 percent of these deaths in the world.¹ Most of these deaths are avoidable, as they relate to the surprisingly low level of adoption of simple treatments and preventative healthcare (Banerjee and Duflo, 2012). On the one hand, poor quality of care significantly deters service use, particularly among vulnerable populations (Banerjee, Deaton, and Duflo, 2004; Das et al., 2016; Kruk et al., 2018). On the other hand, income and liquidity constraints, information asymmetry, and time inconsistency further inhibit the demand for healthcare (Dupas, 2011; Dupas and Miguel, 2017; Kremer, Rao, and Schilbach, 2019). Community Health Workers (CHWs), as lightly trained community members tasked with the first line of information-provision, treatment, and referrals for households, have been a major hope for overcoming the referred obstacles in both the supply and demand of healthcare (Singh and Sachs, 2013).

However, in many countries in Sub-Saharan Africa, the formal healthcare system is not the only, nor the primary, provider of health services. The WHO states that 80 percent of the African population depends on traditional medicine for basic health needs (Krah, de Kruijf, and Ragno, 2018; WHO, 2022).² The number of Traditional Health Practitioners (THPs)³ is much higher than that of doctors and nurses, estimated to be 1:500 for THPs versus 1:40,000 for medical doctors (Chatora, 2003; Abdullahi, 2011; WHO, 2013). This dominant presence is deeply intertwined with established traditional belief systems, often related to religion (Ashraf et al., 2017; Coutts, Molina-Millan, and Vicente, 2022). THPs are then highly accessible while sharing important beliefs with sizable populations in Sub-Saharan Africa. The natural idea of involving THPs in formal health provision in a role not very different to that of CHWs has been scarcely studied, mainly in a few recent publications in public health, which report positive health impacts (Sundararajan et al., 2021; Boum et al., 2021).

This paper follows the first stage of a new program in Guinea-Bissau aiming to integrate THPs in the formal health system through assigning them a set of tasks that are typically given to CHWs.⁴ Guinea-Bissau features among the most challenging environments with regards infant and maternal health worldwide. The ratio of THPs to population in the region of Bafatá, where the program was initiated, is 1:172. We follow the recruitment process of THPs to the program. After a full census of THPs in Bafatá, all THPs were invited to participate in the program. We test the impact of two randomized variations of the information provided to THPs regarding the expected benefits of the program. This allows us to shed light on the motivations driving THPs' decision to collaborate with the formal health system. In one variation, we adopt the typical approach employed with CHWs, who are typically volunteers: we emphasize the potential pro-social, community-level impact of the program, which can be understood in a broad way as honor. In the other variation, we underline the potential of the program to improve the business outcomes of the THPs, which can be summarized as profit. Note that THPs are private healthcare providers who charge for their services. This is an important difference to typical CHWs.

The randomized messages on the potential benefits of the THP integration program were communicated at the end of the census, where we have reached 1,437 THPs. A reinforcement phone contact

¹World Development Indicators, latest available years, 2024. WHO, factsheet, 2024.

²This is despite limited access to related data and studies as covered in the systematic review of James et al. (2018).

³A THP, as defined by the WHO (2001), is a person who is recognized by the community in which she lives as competent to provide health care by using vegetables, animals and mineral substances, and certain other methods based on social, cultural and religious background, as well as on the knowledge, attributes, and beliefs that are prevalent in the community, recording physical, mental and social well-being and the cessation of disease and disability.

⁴Most of existing initiatives in Guinea-Bissau that foster collaboration between traditional and modern medicine focus on introducing traditional herbal medicine as a complementary medical treatment within the modern healthcare system.

followed the initial face-to-face contact. After that, we implemented a behavioral measure of interest in participating in the program, as we asked THPs to call the program to express their interest. We also conducted a face-to-face survey at the end of the selection process, in which we gathered a measure of willingness to meet with representatives of the formal health system, within this pilot initiative to promote collaboration between community and traditional health.

We find that the pro-business message increased the likelihood of calling the program to express interest in participating in it (our behavioral measure of interest in the program) by 7 percentage points, compared to the pro-social message. Other differences in reported interest have the same sign. This difference is consistent with differences between the two groups in terms of perceived benefits of the program. There are no clear differences between the two groups in terms of understanding of the information received about the program. We also find that previous collaborations with the formal system increase both calling the program and willingness to meet with the formal health system for THPs exposed to the pro-business message (relative to the pro-social one). THPs less prone to base their practice on religious principles are also more prone to respond positively to the pro-business message. We conclude that THPs seem to be more attracted to the collaboration with the formal health system once opportunities for business improvements are mentioned. It is likely that unlike CHWs—whose role in the health system, including in Guinea-Bissau, has typically not been structured around profit—THPs may have a clearer profit-driven motivation..

Our paper first relates to the literature on the effectiveness of CHWs. [Björkman Nyqvist et al. \(2019\)](#) review the literature from public health and conclude that although there is a literature finding positive effects, if one reduces attention to RCTs, the findings are mixed.⁵ It is possible that this uncertainty relates to the fact that most CHW programs are based on volunteer work with no clear financial incentives. As a way forward [Björkman Nyqvist et al. \(2019\)](#) conduct a randomized evaluation of the recruitment of sales agents incentivized to conduct home visits, educate households on essential health behaviors, provide medical advice and referrals, and sell preventive and curative health products. This is akin to CHWs that are allowed to make a business as sellers of health products. Results after 3 years show substantial health impact, namely on under 5-years child mortality. The entrepreneurial CHW program has some similarity to the program we study in our paper, as THPs operate private businesses as health providers and are also invited to work as CHWs.

The literature on traditional medicine and THPs is quite limited. The early papers by [Leonard \(2003\)](#) as well as by [Leonard and Zivin \(2003\)](#), who study rural Cameroun, are important in underlining a key difference between formal health provision and traditional health provision. Differently from the former, traditional health often works through payments conditional on treatment success. That is a likely factor contributing to its widespread adoption, specially when treatment require effort from patients.⁶ Results for Tanzania show that the previous health outcome plays a crucial role in shifting individual preferences from/to formal to/from informal healthcare ([Corno, 2014](#)). In an interesting RCT conducted in Pakistan, [Bennett, Naqvi, and Schmidt \(2018\)](#) show that a health information intervention demonstrating the role of science was effective in improving hygiene behaviors and health outcomes, but less so for individuals who had stronger traditional health beliefs. Related to this finding, [Ashraf et al. \(2017\)](#) show that in a Zambian survey of married couples of childbearing age traditional beliefs are likely to slow down learning about maternal health risks. In more recent work, [Lowe and Montero \(2019\)](#) analyze DHS data in Central African countries and find a positive association between the belief that

⁵One of these papers is [Boone et al. \(2016\)](#), which undertakes an RCT in Guinea-Bissau (regions of Quinara and Tombali) to study the impact of a bundle of community health interventions, which did not reduce under-5 mortality. The authors conclude that community-based health promotion and basic first-line services in fragile contexts with weak secondary health service infrastructure might be insufficient to reduce child deaths.

⁶Other papers employing Ghanaian data have underlined the positive correlation of income with the use of modern relative to traditional medicine, as well as the impact of traditional medicine in reducing inequality of access to healthcare ([Sato, 2012b,a](#)).

witchcraft can cause HIV and the use of traditional medicine for various other health conditions. This set of results underlines the importance of working on changing health beliefs, namely by training THPs in scientific health practices.⁷

Finally, our paper also relates to the literature on how to make improvements in the performance of health workers in developing countries. First, enhanced performance can be the outcome of better selection of workers, although related findings are mixed: [Ashraf et al. \(2020\)](#) observe in Zambia that offering career opportunities attracts marginal applicants that are more talented and equally prosocial, who perform better on the job; differently, [Deserranno \(2019\)](#) show for Uganda that higher expected financial incentives attracts more applicants but reduces the ability to recruit the most socially motivated agents, who are found to stay longer on the job and to perform better. Second, the provision of financial incentives can be a central tool. Meritocratic promotions and equal sharing of financial incentives across the hierarchy of health workers are found to improve performance of health workers in Sierra Leone ([Deserranno, Kastrau, and León-Ciliotta, 2024](#); [Deserranno et al., 2024](#)). Third, non-financial incentives are very important instruments in health systems with limited financial capabilities. [Ashraf, Bandiera, and Jack \(2014\)](#) compare financial with non-financial incentives and find that agents recruited by a public health organization to promote HIV prevention and sell condoms do better with both types of incentives. In a nationwide health worker training program in Zambia, [Ashraf, Bandiera, and Lee \(2014\)](#) find that employer recognition and social visibility improve performance. In Guinea-Bissau, [Fracchia, Molina-Millán, and Vicente \(2023\)](#) show that improving the social status of CHWs improves their performance and health outcomes, while [Fracchia \(2024\)](#) observes that evidence about the impact of the CHW program in the country motivates CHWs to do better. In our paper, we relate to this literature in that we employ two variations of information about program benefits when recruiting THPs, one related to non-financial benefits, the other related to material benefits.

2 Context

Guinea-Bissau faces some of the most difficult development indicators in the world, with the 12th lowest GDP per capita in the world and 89 percent of the population under a poverty line.⁸ Severe health problems are present in the country. In 2022, the mortality of children was 34 (in the first month of life), 49 (in the first year), and 72 (in the first five years) per 1,000 children born. These numbers corresponded to the eighth, 19th, and 16th (respectively) highest mortality rates in the world in the same year. The supply of health services in Guinea-Bissau faces clear limitations with only 0.22 physicians and 1.05 nurses per 1,000 people, clearly below the average in Sub-Saharan Africa.⁹

The demand for formal health services is also limited in Guinea-Bissau. That has been the main reason for the expansion of CHWs in the country. These are community members trained to offer basic health information, as well as simple treatments and prevention actions. They also refer households to health centers, with a focus on pregnancies and children under five years of age. CHW programs have been supported by the government and international agencies, with the collaboration of NGOs (which have an important role providing capacity to the state). In 2019, the World Bank reported that 3,862 CHWs were active in Guinea-Bissau ([WB, 2019](#)) - these correspond to 2.34 CHWs per 1,000 people. However, CHWs in Guinea-Bissau are mainly volunteers with a small financial incentive, which the state frequently struggles to pay on time. That places clear doubts on the sustainability and effectiveness of CHWs in Guinea-Bissau.

⁷Recent papers have also underlined the lasting effects of historical and political events countering the adoption of science-based health behaviors ([Alsan and Wanamaker, 2018](#); [Lowe and Montero, 2021](#); [Martinez-Bravo and Stegmann, 2022](#)).

⁸World Development indicators, 2024, latest available years. The poverty line considered is USD 6.85 PPP.

⁹World Development indicators, 2024, latest available years.

At the same time, traditional medicine and THPs are central to health provision in Guinea-Bissau. Although there is very limited information about them from formal sources, from the census of THPs we conducted in 2023 for this project we identified 1,437 THPs in the Bafatá region of Guinea-Bissau. That corresponds to 5.82 THPs per 1,000 people in that region (employing [INE \(2023\)](#)). In a recent representative survey of mothers in the regions of Biombo and Cacheu in Guinea-Bissau, [Coutts, Molina-Millan, and Vicente \(2022\)](#) found that 63 percent of the sample self-reported having visited a THP. Hence, these practitioners are easily accessible to the population, namely in rural areas. They also share similar beliefs, as most of the THPs rely on spiritual or religious entities: Djambacos (Animist) and Mouros (Muslim) invoke higher entities, including spirits or religious texts (e.g., the Quran), to diagnose and treat patients. In fact, 65 percent of the Biombo/Cacheu sample mentioned above believes curses have the power to kill. Others, such as Curandeiros and Matronas (traditional midwives), rely mainly on natural medicines, such as herbs and roots. Importantly, THPs are private healthcare providers who are financially compensated for their services by their patients.

3 Experimental design

3.1 The program

In this paper, we evaluate a program sponsored by UNDP with the collaboration of the Ministry of Public Health of Guinea-Bissau, NOVAFRICA, and VIDA NGO, which aims at integrating THPs into the formal health system in Guinea Bissau (henceforth, the THP integration program). The program focuses on the protocol followed by CHWs for malaria. This includes a set of actions to prevent and treat malaria, including testing for the disease. For prevention, the use of long-lasting impregnated mosquito nets is encouraged. Referrals to health centers are also an important part of this protocol, namely for pregnant women to receive the intermittent preventive therapy recommended by the National Health Plan. CHWs are likely to have contributed to recent improvements in maternal, neonatal, and child health in Guinea-Bissau ([Fracchia, 2024](#)). However, THPs have the potential to improve on those efforts: they are highly accessible to the population, they share common traditional beliefs, and crucially, they run sustainable private businesses. Hence, the hope of the program is to attract THPs to the formal system to take the role of CHWs.¹⁰

The program is directed at the Bafatá region in Guinea-Bissau which was flagged by UNDP as a region with high prevalence of malaria and important challenges in terms of access to formal healthcare. By 2023 Bafatá had an estimated population of 246,889 people, corresponding to 14 percent of the population of Guinea-Bissau ([INE, 2023](#)).

3.2 Treatments

Our paper focuses on the selection process of THPs in the Bafatá region of Guinea-Bissau for the THP integration program. All the THPs in the region, as identified through a census of THPs (described below), were invited to participate in it. We experimentally vary the way the program is advertised. All THPs were shown a video in which an official from the Ministry of Public Health announces and explains the program. The content of the video was exactly the same for all THPs in what regards the functioning of the program. However, THPs were randomly assigned to receive different highlights on the benefits of the program from the official in the video - two versions of the video featuring the same

¹⁰In an ongoing randomized controlled trial, we are evaluating the health care impacts of recruiting THPs for the malaria program, vs. activating existing (non-THP) CHWs. Both are being compared to a control group without any intervention. This experiment is being implemented at the level of the village, with one THP and one CHW identified for the study per village, as a follow-up of the analysis we report on in this paper.

official were prepared for that reason.¹¹

One version of the job advertisement underlined the potential for community-wide impacts, i.e., improving the health outcomes of the community. This is the typical way to recruit CHWs, who are eminently volunteers and so expected to be driven by pro-social motivations. We name this treatment variation the **pro-social treatment**. The other version of the job advertisement highlighted the program's potential for improving the private benefits, i.e., profits, of the THP, who could improve his/her practices and in that way be better compensated for the services provided. THPs are private providers of health care whose motivation can be primarily driven by profits. We name this treatment variation as the **pro-business treatment**.

The recruitment messages were conveyed in the context of the initial face-to-face census of THPs (video/audio) and a subsequent reinforcement phone call (audio). Although the institutional messages were self-explanatory, enumerators were thoroughly trained to explain the contents again and reinforce the nuance of each specific message. The messages were as follows. Pro-social message: 'We offer you the opportunity to participate in a pilot initiative to *reduce maternal and child mortality in your community*. You will have the possibility of accessing specific training in malaria prevention and receiving communication material and monitoring equipment *to save more lives*.' Pro-business message: 'We offer you the opportunity to participate in a pilot initiative to *improve your activity*. You will have the possibility of accessing specific training in malaria prevention and receiving communication material and monitoring equipment *to increase your client's satisfaction*.'

During the reinforcement contact survey, the message was expanded to include relevant details about the program's timeline and incentives. The messages were as follows (audio):

Pro-social message: 'We offer you the opportunity to participate in a pilot initiative to improve your activity. This pilot initiative aims to provide more knowledge related to your work as a traditional healer, thereby *helping the people in your community*. It will be an opportunity to *enhance the lives of the people in your community*, as you will gain better knowledge as a traditional healer, which will help *improve your community's ability to treat patients and, in turn, save lives*. In this initiative, you will have the opportunity to attend a training course lasting a few days, specifically on malaria prevention. This will be followed by a period of approximately six months, during which you will receive communication materials and possibly other equipment for malaria prevention and treatment as part of the collaboration with the formal health system. There will be no financial incentives, apart from a stipend to cover transportation and food costs during the training days. With this, you will *be able to continue saving more lives*.'

Pro-business message: 'We offer you the opportunity to participate in a pilot initiative to improve your activity. This pilot initiative aims to provide more knowledge related to your work as a traditional healer, *helping you increase your clients' satisfaction*. It will be an opportunity to *enhance the success of your business*, as you will gain better knowledge as a traditional healer, which will help you *improve your ability to treat patients and, consequently, increase the profitability of your business*. In this initiative, you will have the opportunity to attend a training course lasting a few days, specifically on malaria prevention. This will be followed by a period of approximately six months during which you will receive communication materials and possibly other malaria prevention and treatment equipment as part of the collaboration with the formal health system. There will be no financial incentives beyond a stipend to cover transportation and food costs during the training days. With this, you will *be able to continue increasing your clients' satisfaction*.'

¹¹The duration of the two versions of the video was the same, respectively 51 and 49 seconds.

3.3 Population, randomization, and measurement

This project began with the census of the population of THPs in the Bafatá region of Guinea-Bissau. For that purpose we visited all villages in that region in May 2023. To collect the list of villages, we combined information from mWater data with google maps. We identified and visited 974 villages in all the 14 health areas of Bafatá region. Figure 1 shows all villages visited by health area. In each village, we started by interviewing the corresponding village leader, whom was asked to list all THPs living or working in the same village or in nearby villages. For each THP we obtained name, phone number, and information on whether the THP lives in the same village or in another village (in which case we also noted the name of that other village). Of the 974 village leaders interviewed, 703 reported the presence of at least one THP. On average, village leaders identified 2.6 THPs per village. In total, we identified and interviewed 1,437 THPs. Almost all of them were interviewed face-to-face.¹²

The census collected basic demographic information about the THPs, as well as a description of their health activities and their beliefs. Close to the end of the census questionnaire, THPs were introduced to the THP integration program, when they watched or heard the video from the Ministry of Public Health.¹³ THPs were randomly assigned to either the pro-social (705 THPs) or the pro-business (735 THPs) recruitment messages for the program. Importantly, THPs were asked at the end of the census interview whether they intended to join the THP integration program.

Five months after the census, in November 2023, we conducted a follow-up phone questionnaire. The purpose of this questionnaire was twofold: first, to reinforce the initial treatment assignment by playing the recruitment messages again; second, to assess the understanding of the program by the THPs and re-assess their interest in participating in it. We reached 655 THPs, of whom 314 were in the pro-social group and 341 in the pro-business group.

In March 2024, we established a call center to enable two-way interactions with THPs. At that point, we reached 857 THPs, 411 from the pro-social group and 446 from the pro-business group. We then offered them a toll-free number to where they could express their interest in participating in the program. This entailed a costly action on the part of THPs to participate in the program, which is less likely to be prone to social desirability biases. We take the observation of this action as our main outcome (behavioral) measurement of the intention to participate in the THP integration program.

Additionally, in May 2024, we conducted a face-to-face follow-up survey in a selected sub-sample of villages. The target population were 409 villages, in which we had identified at least a THP showing interested in participating in the program through the call center, or during the census interview. We ended up with a list of 409 villages, in which we have a total of 1117 THPs. In each village we interviewed the THP who showed higher interest, that is those who called back the program during the phone behavioral measurement tracking survey. We interviewed face-to-face 392 THPs (186 from the pro-social group and 206 from the pro-business group) of the 409 targeted population, yielding a survey rate of about 95%. We began by collecting socio-demographic data. We then asked questions about the THP activity, including the range and pricing of their services. We administered a knowledge test on malaria and antenatal care, and measured diagnosis practices. We also asked about beliefs related to modern and traditional medicine. Cooperation with health centers as well as trust in the health system were covered as well. We also included a module on time use of the THPs. During the face-to-face follow-up survey, we elicit THPs' Willingness to Pay to attend a future meeting with representatives of the national health system and the association of traditional medicine. We use a variation of the BDM elicitation method called Multiple Price List (Becker, DeGroot, and Marschak, 1964; Burchardi et al.,

¹²Sixty-four THPs were not found in person and were interviewed by phone at the time of the conduction of the census.

¹³Randomization was implemented during the census survey, where the software used for the survey randomly assigned a number to each interview. Based on this number, the software automatically determined which video to display, ensuring that enumerators had no influence over the assignment process.

2021; Loiacono and Silva-Vargas, 2023). We present respondents with a series of take it or leave it offers, where the price offered increases at each step. We do not inform them of the distribution of the values, but we communicate that the price will be between 0 and 3,000 XOF. Before starting, we provide respondents with an endowment of 3,000 XOF (approximately 5 USD at the nominal 2024 exchange rate), which corresponds to the maximum value the exercise can take. We inform the respondent that the value has already been determined and has been printed in an envelope that the enumerator places in a visible place. The envelope can be opened only at the end of the elicitation procedure. We invite respondents to provide a value higher than the endowment if they want to signal a higher WTP. Section E of the Appendix provides details of the script we used to elicit respondents' WTP.

Finally, from the 392 THPs interviewed in the follow-up survey, we identify 324 residing in villages with an active CHW. Among them, we randomly select 108—one-third—to participate in the THP integration program. The program held its first training session in December 2024, and we have attendance records for this session.

Figure A-1 in the Appendix presents the timeline of our experiment. Table C-1 shows that the assignment to treatment remains balanced across the different rounds of data collection after the first one, i.e., the face-to-face census: no differences between the share of contacted THPs for the two comparison groups are statistically significant.

3.4 Estimation strategy

In the analysis that follows, we focus our attention on estimating treatment effects. The standard specification we apply is:

$$y_{ij} = \alpha + \beta \mathbf{Pro-business}_i + Z_j' \delta + X_i' \gamma + \epsilon_{ij} \quad (1)$$

In this model, y_{ij} represents the outcome variable measured in different data collection rounds for THP i in health area j . The term $\mathbf{Pro-business}_i$ captures the treatment effect as a difference to the Pro-social condition. Z_j and X_i are health area fixed effects and THP-level demographic controls, respectively.¹⁴ The error term, ϵ_{ij} , is an idiosyncratic component that accounts for unobserved heterogeneity at the individual level. This specification allows us to isolate the causal impact of the pro-business treatment over that of the pro-social treatment on the outcome variable. We employ OLS estimations and robust standard errors.

4 Results

4.1 Balance and descriptive statistics

Table 1 shows descriptive statistics for the sample of THPs interviewed in the census survey, except the row of the table that shows statistics of a test on health practices delivered during the phone reinforcement contact in May 2024, and therefore covers only a subsample of the population of THPs in Bafatá. A large majority of the THPs are male (74 percent) with an average age of 56 years. Ninety-two percent identify as Muslim. Ethnically, the majority of the healers belong to the Fula group (73 percent), while smaller proportions identify as Mandinga (16 percent) and Balanta (4 percent). Sixty percent have a deep-rooted connection to their corresponding communities, having been born in the village where they practice. Most THPs have low levels of formal schooling: 76 percent have no formal education, and only 12 percent completed at least four years of schooling. Sixty-three percent of the THPs work in agriculture as well.

¹⁴THP-level controls include gender, ethnic, THP-type group, and education indicators.

As for the activity of THPs, 55 percent treat pregnancies and 12 percent treat malaria. Sixty-one percent declare having referred patients to other individuals or institutions in the past, and 29 percent report having collaborated with CHWs. In terms of knowledge about health practices, the average score on a test is 14 out of 18. Forty percent of the THPs receive more than five patients per week, and the average treatment fee is XOF 5616 (close to USD 10). There are four main categories of THPs in Guinea-Bissau. Mouros and Djambacos rely on religious or spiritual entities. They invoke these entities through religious texts, e.g., the Quran, in the case of Mouros. Djambacos invoke spirits (irã). They do so to diagnose and treat patients. In Bafatá, Mouros (who are Muslim by definition) make up 43 percent of the THPs, while Djambacos (Animists) account for 4 percent. Others practitioners, like the Curandeiros (41 percent) and Matronas (19 percent, who are mainly women), rely mainly on natural medicines, such as herbs and roots, without making religious or spiritual elements as central to their activity.¹⁵

Table 1 also presents the mean differences between the treatment groups across different characteristics of the THPs. Of the 23 individual tests conducted, two are significant at conventional levels, lower than 10 percent of the cases: gender and being a midwife (matrona). These variables are related, as most midwives are women. On average, there are 8 percent more men in the pro-business treatment group than in the pro-social business group, and 6 percent fewer midwives. Overall, the randomization was effective in creating comparable groups for the experiment.

We conducted balance tests on individual characteristics after each round of data collection (Tables C-2-C-5 in the Appendix). Gender composition differences between treatment arms remain stable in both magnitude and significance across phone surveys. These differences account for the variation in THP type, as midwives (matronas) were less likely to be interviewed (a difference of 5 to 9 percentage points, statistically significant at the 1% level). While no gender differences were observed in the follow-up survey, we found a 16-percentage-point difference (significant at the 5% level) between treatment arms in the sample selected for the THP integration program.

During the phone reinforcement survey, THPs in the pro-business treatment group were less likely to have previously referred patients to other individuals or institutions (a difference of 9 percentage points, statistically significant at the 5% level.). In the call center sample, a lower proportion of THPs in the pro-business group identified as belonging to the Fula ethnic group (a 8 percentage point difference, statistically significant at the 5% level), while a higher proportion identified as *curandeiros* (a 10 percentage point difference, statistically significant at the 1% level). Consistent with the larger gender imbalance across treatment arms, a lower proportion of THPs in the pro-business treatment group reported treating pregnant women compared to those in the pro-social group (7 percentage points difference, significant at the 5% level).

Finally, Tables C-4-C-5 show that baseline characteristics between treatment arms are generally balanced in both the face-to-face follow-up survey and the THP integration program. The only exception is the proportion of THPs receiving more than five patients per week in the face-to-face follow-up survey, which is 5 percentage points lower in the pro-business group (significant at the 10% level).

Although attrition is correlated with baseline characteristics, these correlations do not differ systematically between treatment groups. Tables C-6-C-8 present estimates from a linear probability model predicting the likelihood of being interviewed in each round of data collection. The independent variables include a set of THP characteristics measured at the census and their interactions with assignment to the pro-business message.

At the bottom of each table, we report p-values for two joint significance tests: one for all baseline characteristics (excluding interaction terms) and another for all interaction terms. We find evidence of selection on baseline characteristics at the 1% significance level in each phone survey and at the 10% level

¹⁵Table B-1 in the Appendix shows descriptive statistics by type of THP, including information on the treatment practices used by each one.

in the follow-up face-to-face survey. However, we do not observe selection on observables in the sample selected for participation in the THP program. Additionally, Table C-9 shows differential selection between treatment arms. To address this, Appendix C presents estimates that adjust for attrition using inverse probability weights (IPWs), which account for potential differences between treatment arms. Overall, the results remain robust to this adjustment (Table C-10).¹⁶

4.2 Treatment effects

We begin by addressing the main research question on the differential effects of the two recruitment messages on interest in participating in the THP integration program. Figure 2 shows the treatment effect of the pro-business message over that of the pro-social one.¹⁷ We employ the specification we introduced above. We find a clear effect of the pro-business message on the (costly) behavioral measure of calling the program to express interest in program participation. The magnitude of this effect is 6.9 percentage points, significant at the 5 percent level. We note that this is an effect over above the 34 percent rate of calling the program in the pro-social group. The differential impact of the pro-business message is then a substantial 20 percent effect size. Looking at self-reported measures of interest from the census and the reinforcement phone contact using Likert-scales,¹⁸ we find positive magnitudes of the differential effect as well, but not statistically significant at standard levels. Average interest of the THPs in the pro-social group was high after the initial census contact, with 0.77 on a scale of 0-1. This level increased to 0.85 after reinforcement. Finally, we find a large effect of the pro-business message on attending the training of the THP integration program. The magnitude of the effect is 24.7 percentage points, significant at the 5 percent level. Overall, we conclude that the pro-business condition led to higher interest in participating in the program than the pro-social one.

We also find that THPs align their expected benefits from the THP integration program with those benefits underlined by the randomized messages. This is shown in Figure 3, which regards data collected in the phone reinforcement contact.¹⁹ THPs exposed to the pro-social message are more likely to believe that participating in the program will improve lives in the community. The magnitude of the difference to the pro-business group is 2.1 percentage points, significant at the 10 percent level. The corresponding difference relating to people’s well-being has the same sign, is similar in size, but is not statistically significant. Analogously, the pro-business message led THPs to expect greater benefits for their business, in terms of own profit and own business. These effect sizes are 5.4 and 4.6 percentage points, respectively, both significant at the 1 percent level. We also observe that the pro-business condition increased the expectation that the program will have a greater impact on business relative to community health, namely by 17.5 percentage points, statistically significant at the 1 percent level. We conclude that THPs seem to have incorporated the treatment messages in their perceptions of the THP integration program. In particular, THPs in the pro-business group seem to align their economic incentives with the participation in the formal health program.

We verify in Table D-3 in the Appendix whether there is a difference between the two message groups in THPs’ understanding of the information conveyed on the integration program. We find that measures of self-reported understanding of the randomized messages are not statistically different between the pro-social and pro-business groups, in both the initial face-to-face census and the phone reinforcement

¹⁶Estimates of the probability of being selected for the THP integration program indicate that selection on observables is not strong enough to justify constructing IPWs.

¹⁷The corresponding table is in the Appendix as Table D-1.

¹⁸The survey question in the census was as follows: How interested would you be in participating in the initiative mentioned in the video?(Not at all, A little, Moderately, Very much, Extremely). The survey question in the reinforcement phone contact was as follows: What is your level of interest in participating in the mentioned initiative? (Not at all, A little, Moderately, Very much, Extremely)

¹⁹Table D-2 in Appendix shows the corresponding regression output.

contact.²⁰ We also asked about project duration and incentives in the phone reinforcement contact - the corresponding information was included in the information module about the THP integration program.²¹ While there is no statistically significant difference for incentives, the pro-business group is 7.7 percentage points more likely to report the right answer about duration of the project (this is significant at the 5 percent level). We conclude that while there are no clear differences in understanding of the information about the program, pro-business group participants are more likely to pay attention to project duration, possibly because of business-oriented motivations.

In Table D-4 of the Appendix we report the effect of the pro-business message (relative to the pro-social one) on the willingness of THPs to meet with the formal health system: as described above, we have elicited, during the face-to-face follow up, willingness to meet with representatives of the Ministry of Public Health. We do not find statistically significant differences. We do however observe a positive magnitude of the pro-business message on the likelihood of bidding above zero for the referred meeting.²²

We summarize our average treatment effects in the following way. The pro-business message drives additional participation in the THP integration program (over that of the pro-social message) as measured by our behavioral outcome of interest in the program, and by training attendance. The different messages seem to drive aligned perceptions of benefits of the program. We do not find clear differences in message comprehension.

4.3 Heterogeneous effects

We now turn to an analysis of heterogeneous differences between the pro-social and the pro-business comparison groups. We provide in Figure 4 a summary of our findings ²³. We consider religiosity of the THP and previous collaboration with CHWs as the main dimensions for the heterogeneity analysis.²⁴ We find that THPs without a clear religious/spiritual inclination (curandeiros and matronas), when faced with the pro-business message (vs. the pro-social one) are more likely to call the program in the context of our behavioral measurement (of interest in participating in the program) than the THPs associated with religious/spiritual practices (mouros and djambacos). The p-value of the difference between the two effects is 0.05. It is then likely that non-religious THPs see a better business opportunity in the THP integration program. Note that we see the same pattern of results for female THPs, which is likely related to fact that matronas are almost all female.²⁵ However, we do not find a significant difference between the two groups regarding their expectations of the program having a greater impact on their own business than on the community's health, nor in their willingness to pay for a meeting with representatives of the formal health system.

²⁰The survey question in the census was as follows: How well did you understand the message of the video? (No understanding, Some understanding, Total understanding), and it was formulated after visualization the video. The survey question in the reinforcement phone contact was as follows: How well did you understand the message? (I didn't understand anything, I understood a little, I understood it well), and it was formulated after listening to the message?

²¹The survey questions in the reinforcement phone contact were as follows: What is the expected duration of this initiative? (A few days, a few weeks, a few months, a few years, I don't know); What do you expect to receive for participating in this initiative? (I won't receive any payment, I will receive a small stipend for transport and food, I will receive a payment and also a stipend for transport and food, I won't receive anything).

²²The outcome in column 1 is a binary variable indicating whether the respondent expressed any positive WTP, defined as submitting a bid greater than 0 XOF. The outcome in column 2 is a binary variable indicating whether the respondent's bid reached the maximum allowed value of 3,000 XOF. The outcome in column 3 represents the specific monetary value respondents are willing to pay. For those indicating a willingness to pay more than 3,000 XOF, this outcome captures the highest amount reported (exceeding 3,000 XOF). The value is winsorized at the 1% level.

²³We do not conduct heterogeneous analysis on training attendance due to the limited sample size.

²⁴In Appendix, we provide full heterogeneity tables, for gender, age, religiosity of the THP, previous collaboration with CHWs, and previous collaboration with other THPs.

²⁵We also find a similar pattern with regards THPs younger than 57 years of age.

When considering THPs' previous collaboration with CHWs, which approximates the level of cooperation experience with the formal health system, we find that those THPs who collaborated and have been exposed to the pro-business message (vs. those exposed to the pro-social one) are more likely to call the program (under our behavioral measurement of interest in participating in the THP integration program). The corresponding p-value is 0.04. We find a similar difference when considering willingness to pay for a meeting with the formal health system, which has a p-value of 0.03. We do not find a significant difference between the two groups regarding their expectations of the program having a greater impact on their own business than on the community's health. We infer that there is clear evidence that THPs with a history of interaction with CHWs are more likely to exert effort to participate in the THP integration program. While this group has similar expectations regarding the program's benefits for their business compared to THPs without prior experience, their previous collaboration with CHWs may lead them to perceive the effort as worthwhile, possibly due to having already experienced benefits from such collaboration.²⁶

5 Concluding remarks

In this paper, we follow the recruitment of THPs for a formal health program in Guinea-Bissau, operating akin to CHWs. We test the relative impact of two messages on the benefits of the program. In one version, the pro-social benefits were underlined; the other version emphasized the potential to benefit the business outcomes of the THPs. We find that the pro-business message increased THPs' interest in participating in the program, namely as measured by a behavioral measure, consistently with its different perceived benefits. We also find that non-religious THPs and those with previous collaborations with the formal health system are more likely to react positively to the pro-business message.

Attracting THPs to the formal health system could be an important avenue to bridge the gap to the adoption of science-based healthcare provision and improve the health indicators of countries like Guinea-Bissau. Our results reinforce the idea that economic incentives are important for THPs, and that they could influence their participation in formal health programs. Indeed, beyond being highly accessible and sharing traditional beliefs with most of the population, THPs are likely to run, in many cases, sustainable (private healthcare) businesses. Our findings suggest that an effective communication of the material benefits of adopting improved (scientific) practices in the short run and of referring to health centers (in case of need) in the longer run, could be particularly important to integrate THPs in the formal system and make systemic improvements. Further research is needed to track the performance of THPs within the formal system.

²⁶Interestingly, we find the opposite pattern with respect to previous collaboration with other THPs, although this is only appearing for our behavioral measurement of interest in participating in the program: THPs with more interaction with other THPs are less likely to see a business opportunity in the program. They also understand less well the information about the program.

References

- Abdullahi, Ali Arazeem. 2011. "Trends and Challenges of Traditional Medicine in Africa." *African Journal of Traditional, Complementary and Alternative Medicines* 8 (5S).
- Alsan, Marcella , and Marianne Wanamaker. 2018. "Tuskegee and the Health of Black Men." *The Quarterly Journal of Economics* 133 (1): 407–455.
- Ashraf, Nava, Oriana Bandiera, Edward Davenport, and Scott S Lee. 2020. "Losing Prosociality in the Quest for Talent? Sorting, Selection, and Productivity in the Delivery of Public Services." *American Economic Review* 110 (5): 1355–94.
- Ashraf, Nava, Oriana Bandiera, and B Kelsey Jack. 2014. "No Margin, no Mission? A Field Experiment on Incentives for Public Service Delivery." *Journal of Public Economics*, 120: 1–17.
- Ashraf, Nava, Oriana Bandiera, and Scott S Lee. 2014. "Awards Unbundled: Evidence from a Natural Field Experiment." *Journal of Economic Behavior & Organization*, 100: 44–63.
- Ashraf, Nava, Erica Field, Giuditta Rusconi, Alessandra Voena, and Roberta Ziparo. 2017. "Traditional Beliefs and Learning about Maternal Risk in Zambia." *American Economic Review Papers Proceedings* 107 (5): 511–515.
- Banerjee, Abhijit, Angus Deaton, and Esther Duflo. 2004. "Health Care Delivery in Rural Rajasthan." *Economic and Political Weekly* : 944–949.
- Banerjee, Abhijit V. and Esther Duflo. 2012. "Poor Economics." *Poor economics* .
- Becker, Gordon M, Morris H DeGroot, and Jacob Marschak. 1964. "Measuring Utility by a Single-response Sequential Method." *Behavioral Science* 9 (3): 226–232.
- Bennett, Daniel, Asjad Naqvi, and Wolf-Peter Schmidt. 2018. "Learning, Hygiene and Traditional Medicine." *Economic Journal* 128 (612):F545 – F574.
- Björkman Nyqvist, Martina, Andrea Guariso, Jakob Svensson, and David Yanagizawa-Drott. 2019. "Reducing Child Mortality in the Last Mile: Experimental Evidence on Community Health Promoters in Uganda." *American Economic Journal: Applied Economics* 11 (3): 155–92.
- Boone, Peter, Diana Elbourne, Ila Fazzio, Samory Fernandes, Chris Frost, Chitra Jayanty, Rebecca King, Vera Mann, Gilda Piaggio, Albino Dos Santos, and Polly R. Walker. 2016. "Effects of Community Health Interventions on under-5 Mortality in Rural Guinea-Bissau (EPICS): A Cluster-Randomised Controlled Trial." *Lancet Global Health* 4 (5):328 – 335.
- Boum, Yap, Sylvie Kwedi-Nolnab, Jessica E. Habererc, and Rose R.G. Leke. 2021. "Traditional Healers to Improve Access to Quality Health Care in Africa." *The Lancet Global Health* 9 (11):e1487 – e1488.
- Burchardi, Konrad, Jonathan De Quidt, Selim Gulesci, Benedetta Lerva, and Stefano Tripodi. 2021. "Testing Willingness to Pay Elicitation Mechanisms in the Field: Evidence from Uganda." *Journal of Development Economics* : 102701.
- Chatora, Rufaro. 2003. "An Overview of the Traditional Medicine Situation in the African Region." *African Health Monitor* 4 (1): 4–7.
- Corno, Lucia. 2014. "Learning (or Not) in Health-Seeking Behavior: Evidence from Rural Tanzania." *Economic Development and Cultural Change* 63 (1):27 – 72.
- Coutts, Alexander, Teresa Molina-Millan, and Pedro C Vicente. 2022. "Belief Systems and Health Behaviors in Guinea-Bissau." *NOVAFRICA Working Paper* (No 2207).
- Das, Jishnu, Alaka Holla, Aakash Mohpal, and Karthik Muralidharan. 2016. "Quality and Accountability in Health Care Delivery: Audit-study Evidence from Primary Care in India." *American Economic Review* 106 (12): 3765–3799.
- Deserranno, Erika. 2019. "Financial Incentives as Signals: Experimental Evidence from the Recruitment of Village Promoters in Uganda." *American Economic Journal: Applied Economics*, 11 (1): 277–317.

- Deserranno, Erika, Stefano Caria, Philipp Kastrau, and Gianmarco León-Ciliotta. 2024. “The Allocation of Incentives in Multi-layered Organizations: Evidence from a Community Health Program in Sierra Leone.” *Journal of Political Economy* forthcoming.
- Deserranno, Erika, Philipp Kastrau, and Gianmarco León-Ciliotta. 2024. “Promotions and Productivity: The Role of Meritocracy and Pay Progression in the Public Sector.” *American Economic Review: Insights* forthcoming.
- Dupas, Pascaline. 2011. “Health Behavior in Developing Countries.” *Review Literature And Arts Of The Americas* 3:1–39.
- Dupas, Pascaline, and Edward Miguel. 2017. “Impacts and Determinants of Health Levels in Low-income Countries.” In *Handbook of Economic Field Experiments*, vol. 2. Elsevier, 3–93.
- Fracchia, Mattia. 2024. “Does Performance Evidence Motivate? A Field Experiment in Guinea-Bissau’s Health Sector.” *Mimeo* .
- Fracchia, Mattia, Teresa Molina-Millán, and Pedro C Vicente. 2023. “Motivating Volunteer Health Workers in an African Capital City.” *Journal of Development Economics* : 103096.
- INE. 2023. “Projeções da População Guiné-Bissau 2014-2063.” Tech. rep., Instituto Nacional de Estatística da Guiné-Bissau. https://www.stat-guinebissau.com/Menu_principal/IV_RGPH/rgph1/projecoes/relatorio_projecao_2014_2063.pdf [Online Resource].
- James, Peter B., Jon Wardle, Amie Steel, and Jon Adams. 2018. “Traditional, Complementary and Alternative Medicine Use in Sub-Saharan Africa: a Systematic Review.” *BMJ Glob Health* 3 (5):e000895.
- Krah, Eva, Johannes de Kruijf, and Luigi Ragno. 2018. “Integrating traditional healers into the health care system: challenges and opportunities in rural northern Ghana.” *Journal of Community Health* 43: 157–163.
- Kremer, Michael, Gautam Rao, and Frank Schilbach. 2019. *Behavioral development economics*, vol. 2. Elsevier B.V. URL <https://doi.org/10.1016/bs.hesbe.2018.12.002>.
- Kruk, Margaret E, Anna D Gage, Catherine Arsenault, Keely Jordan, Hannah H Leslie, Sanam Roder-DeWan, Olusoji Adeyi, Pierre Barker, Bernadette Daelmans, Svetlana V Doubova et al. 2018. “High-quality Health Systems in the Sustainable Development Goals Era: Time for a Revolution.” *The Lancet Global Health* 6 (11): e1196–e1252.
- Leonard, Kenneth L. 2003. “African Traditional Healers and Outcome-contingent Contracts in Health Care.” *Journal of Development Economics* 71 (1):1 – 22.
- Leonard, Kenneth L. and Joshua G. Zivin. 2003. “Outcome versus Service Based Payments in Health Care: Lessons from African Traditional Healers.” *Health Economics* 14 (6):575 – 593.
- Loiacono, Francesco and Mariajose Silva-Vargas. 2023. “Matching with the Right Attitude: The Effect of Matching Firms with Refugee Workers.” *London: PEDL* .
- Lowes, Sara and Eduardo Montero. 2019. “Traditional Medicine in Central Africa.” *AEA Papers and Proceedings* 109:516 – 520.
- Lowes, Sara, and Eduardo Montero. 2021. “The Legacy of Colonial Medicine in Central Africa.” *American Economic Review* 111 (4): 1284–1314.
- Martinez-Bravo, Monica, and Andreas Stegmann. 2022. “In Vaccines We Trust? The Effects of the CIA’s Vaccine Ruse on Immunization in Pakistan.” *Journal of the European Economic Association* 20 (1): 150–186.
- Sato, Azusa. 2012a. “Do Inequalities in Health Care Utilization in Developing Countries Change When We Take into Account Traditional Medicines?” *World Development* 40 (11):2275 – 2289.
- . 2012b. “Does Socio-economic Status Explain Use of Modern and Traditional Health Care Services?” *Social Science and Medicine* 75 (8):1450 – 1459.

- Singh, Prabhjot and Jeffrey D. Sachs. 2013. “1 Million Community Health Workers in Sub-Saharan Africa by 2015.” *Lancet* 382 (9889):363–365.
- Sundararajan, Radhika, Matthew Ponticello, Myung H. Lee, Steffanie A. Strathdee, Winnie Muyindike, Denis Nansera, Rachel King, Daniel Fitzgerald, and Juliet Mwanga-Amumpaire. 2021. “Traditional Healer-delivered Point-of-care HIV Testing versus Referral to Clinical Facilities for Adults of Unknown Serostatus in Rural Uganda: a Mixed-methods, Cluster-randomised Trial.” *The Lancet Global Health* 9 (11):e1579 – e1588.
- WB. 2019. “Guinea-Bissau Health Labor Market Analysis.” Tech. rep., World Bank. <https://openknowledge.worldbank.org/server/api/core/bitstreams/5bf5e58e-abcd-5eca-87ef-5b56076382d1/content> [Online Resource].
- WHO. 2001. “World Health Organization Essential Drug and Medicine Policy.” Tech. rep., WHO.
- . 2013. “WHO Traditional Medicine Strategy: 2014-2023.” Tech. rep., WHO.
- . 2022. “African Traditional Medicine Day 2022 - Message of WHO Regional Director for Africa.”

Tables and Figures

Figure 1: Villages visited during the THPs census

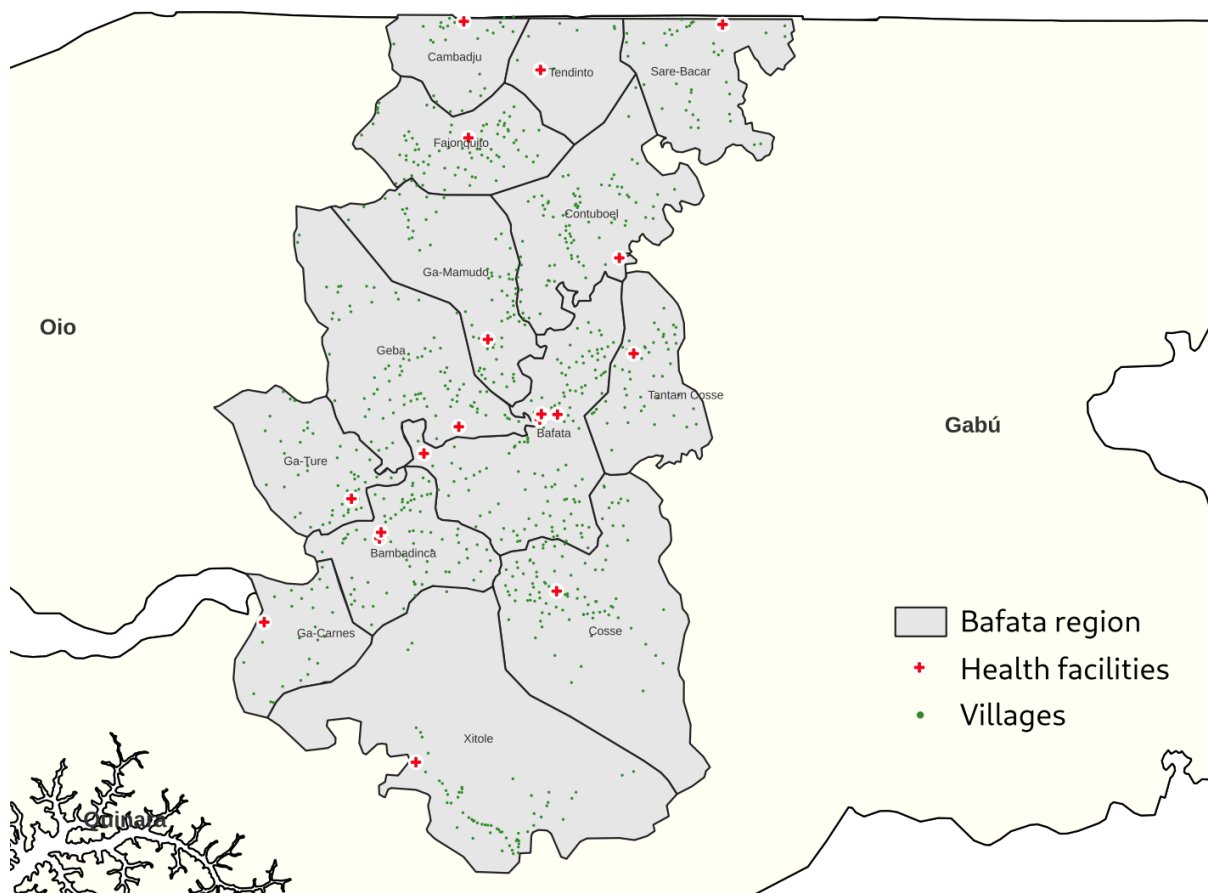
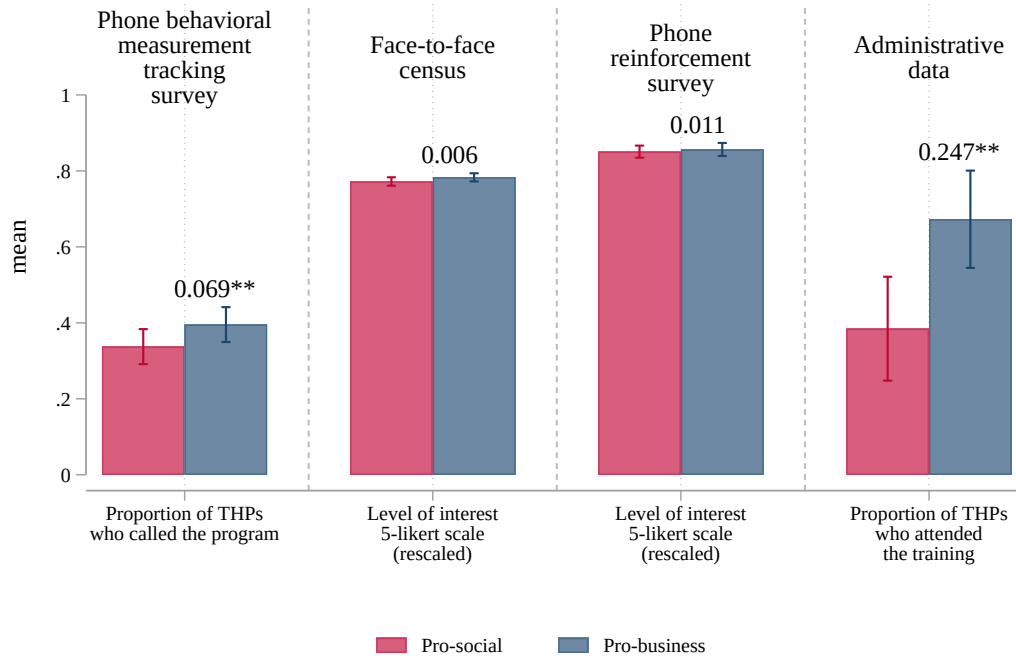


Table 1: Characteristics of THPs.

	Comparison group			
	obs.	pro-social mean	pro-business diff.	(s.e.)
	(1)	(2)	(3)	(4)
Demographics				
Male	1428	0.70	0.08***	(0.02)
Age (time of interview)	1396	56.18	0.18	(0.77)
Muslim	1428	0.92	-0.01	(0.01)
Fula	1365	0.73	-0.04	(0.02)
Mandinga	1365	0.16	0.00	(0.02)
Balanta	1365	0.04	0.01	(0.01)
Born in the village	1427	0.60	-0.00	(0.03)
No school years completed	1428	0.76	-0.01	(0.02)
Completed 4 years of schooling	1428	0.12	0.01	(0.02)
Works in agriculture	1419	0.63	-0.02	(0.03)
Has at least one contact number	1427	0.80	0.00	(0.02)
Distance to nearest Health Center (min)	106	35.23	-5.10	(6.26)
Practices and knowledge				
Treats pregnant women	1428	0.55	-0.03	(0.03)
Treats malaria	1428	0.12	0.00	(0.02)
Refers patients to other individuals or institutions	1408	0.61	-0.02	(0.03)
Collaborates with CHWs	1406	0.29	-0.02	(0.02)
Health practices test score (0-18)	392	13.66	0.11	(0.26)
Receive more than 5 patients per week	1357	0.40	0.03	(0.03)
Average medical treatment fees (XOF)	1343	5616.05	1338.69	(935.94)
THP type				
Mouro	1428	0.43	0.01	(0.03)
Djambaco	1428	0.04	0.01	(0.01)
Curandeiro	1428	0.41	0.04	(0.03)
Matrona	1428	0.22	-0.06***	(0.02)

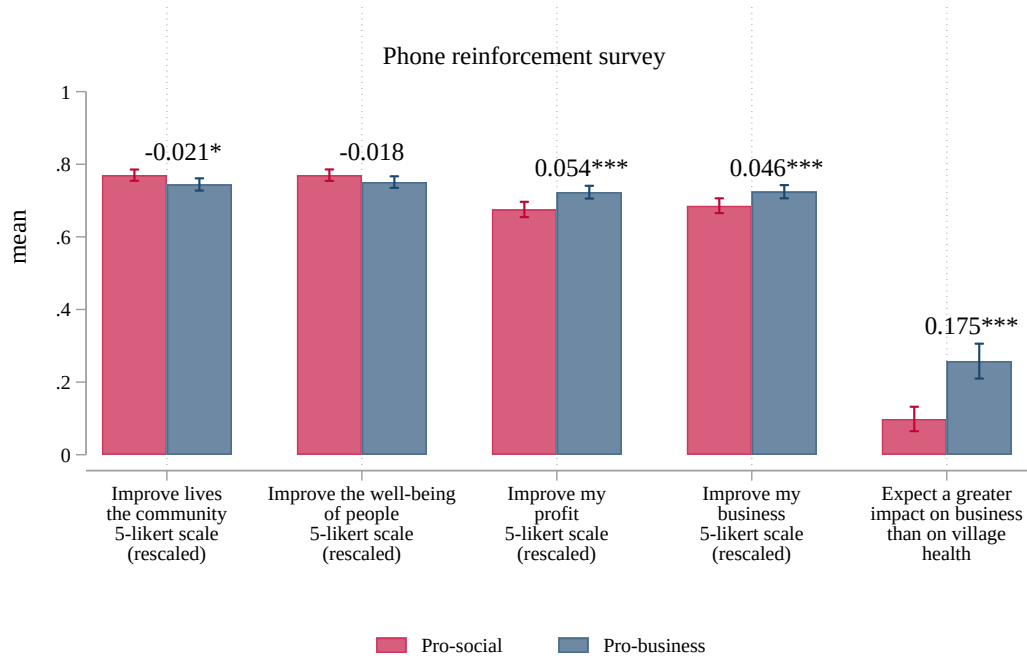
Note: Columns (1) reports number of observations. Column (2) reports sample mean of the pro-social message group. Column (3) reports estimates for the treatment indicator variable. Robust standard errors are reported in parentheses in column (4). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure 2: Interest in participating in the program.



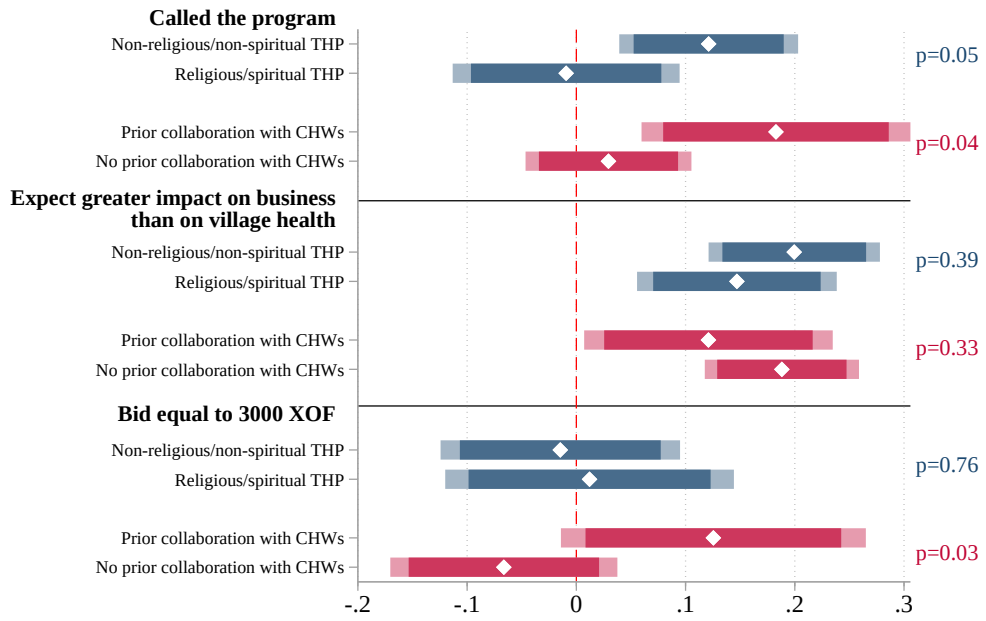
Note: Bars present means for the pro-social message group (red) and the pro-business message group (blue), along with 95% confidence intervals. Estimates for the differential effect of the pro-business message over the pro-social one are shown at the top of the bars. These estimates are based on an OLS regression using equation 1. All specifications include health area fixed effects, indicator variables for whether the THP is a male, for whether the THP is fula, mandinga, or balanta, for whether the THP is a djambaco, a mouro, a matrona, or a curandeiro, and for whether the THP has no education. Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure 3: Perceived benefits by participating in the program



Note: Bars present means for the pro-social message group (red) and the pro-business message group (blue), along with 95% confidence intervals. Estimates for the differential effect of the pro-business message over the pro-social one are shown at the top of the bars. These estimates are based on an OLS regression using equation 1. All specifications include health area fixed effects, indicator variables for whether the THP is a male, for whether the THP is fula, mandinga, or balanta, for whether the THP is a djambaco, a mouro, a matrona, or a curandeiro, and for whether the THP has no education. Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure 4: Heterogeneous effects.



Note: Each panel displays the effect of the pro-business message for the subsamples listed on the vertical axis. Religious/spiritual THPs are Mouros and Djambacos. Non-religious/non-spiritual THPs are Curandeiros and Matronas. The p-value between the bars corresponds to the test of null that the difference between the pro-business effects in each subsample is zero. The specification employed is as before.

ONLINE APPENDIX

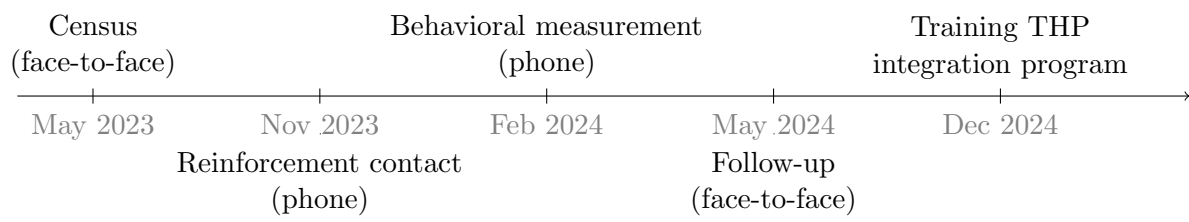
For Honor or for Profit?

An Experiment on Recruiting Traditional Health Practitioners for Formal Healthcare in Guinea-Bissau

Brais Álvarez-Pereira, Mattia Fracchia, Teresa Molina-Millán, and Pedro C. Vicente

A Timeline

Figure A-1: Timeline.



B Descriptive statistics

Table B-1: Characteristics of THPs - type of THP.

	Religious/Spiritual		Non-Religious/Non-Spiritual	
	Djambacos	Mouros	Curandeiros	Matronas
	(1)	(2)	(3)	(4)
Demographics				
Male	0.52	0.99	0.86	0.00
Age (time of interview)	53.64	55.61	57.66	56.89
Muslim	0.33	1.00	0.88	0.94
Fula	0.24	0.72	0.67	0.84
Mandinga	0.03	0.23	0.15	0.08
Balanta	0.34	0.00	0.06	0.03
Born in the village	0.33	0.71	0.65	0.31
No school years completed	0.57	0.74	0.70	0.90
Completed 4 years of schooling	0.29	0.12	0.17	0.04
Works in agriculture	0.64	0.63	0.66	0.58
Has at least one contact number	0.86	0.86	0.83	0.57
Distance to nearest Health Center (min)	20.00	29.45	37.60	30.08
Practices and knowledge				
Treats pregnant women	0.41	0.52	0.40	0.96
Treats malaria	0.10	0.14	0.13	0.04
Refers patients to other individuals or institutions	0.67	0.56	0.53	0.88
Collaborates with CHWs	0.08	0.27	0.27	0.41
Health practices test score (0-18)	12.93	13.75	13.93	13.21
Receive more than 5 patients per week	0.61	0.52	0.47	0.08
Average medical treatment fees (XOF)	7647.27	9378.87	6565.07	475.29
Ingestion of medicinal herbs	0.67	0.54	0.68	0.51
Other treatment with medicinal herbs	0.57	0.53	0.70	0.40
Ceremonies without animal sacrifice	0.17	0.18	0.12	0.01
Ceremonies with animal sacrifice	0.14	0.02	0.02	0.00
Modern medicine	0.00	0.00	0.00	0.03
Quran reading and writing	0.21	0.43	0.19	0.10
Spells and magic	0.21	0.19	0.06	0.01

Note: Columns (1) - (4) reports sample mean by type of THP.

C Attrition

Table C-1: THP interviews after the initial census - balance between comparison groups.

	Comparison group	
	Pro-social	Pro-business
	Share of census interviews	Difference to pro-social
	(1)	(2)
Phone reinforcement survey	0.46	0.02 (0.03)
Phone behavioral measurement tracking survey	0.60	0.03 (0.03)
Face-to-face follow-up survey	0.27	0.02 (0.02)
THP selected to participate in the program	0.07	0.00 (0.01)

Note: We consider the full number of observations in the first round of data collection, i.e., 705 for the pro-social group, and 732 for the pro-business group. Column (1) reports the share of census interviews in the pro-social treatment. Column (2) reports the difference between the share of census interviews in the pro-business group and the one in the pro-social group. Robust standard errors are reported in parentheses for this difference. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table C-2: Characteristics of THPs by recruitment message. Restricted to those contacted in the phone reinforcement survey.

	obs.	Message		
		Pro-social mean	Pro-business diff. (s.e.)	
	(1)	(2)	(3)	(4)
Demographics				
Male	646	0.78	0.08***	(0.03)
Age (time of interview)	635	54.55	0.27	(1.08)
Muslim	646	0.90	-0.01	(0.02)
Fula	655	0.68	-0.06	(0.04)
Mandinga	655	0.19	-0.00	(0.03)
Balanta	655	0.06	0.01	(0.02)
Born in the village	645	0.64	-0.02	(0.04)
No school years completed	646	0.68	0.00	(0.04)
Completed 4 years of schooling	646	0.18	-0.01	(0.03)
Works in agriculture	639	0.61	0.02	(0.04)
Has at least one contact number	646	1.00	0.00	(0.00)
Distance to nearest Health Center (min)	56	36.86	-9.10	(11.67)
Practices and knowledge				
Treats pregnant women	646	0.47	-0.00	(0.04)
Treats malaria	646	0.13	-0.00	(0.03)
Refers patients to other individuals or institutions	636	0.65	-0.09**	(0.04)
Collaborates with CHWs	636	0.28	-0.03	(0.04)
Health practices test score (0-18)	206	13.56	0.17	(0.37)
Receive more than 5 patients per week	610	0.45	0.01	(0.04)
Average medical treatment fees (XOF)	603	6456.93	2289.44	(1815.54)
THP type				
Mouro	646	0.49	0.03	(0.04)
Djambaco	646	0.05	-0.00	(0.02)
Curandeiro	646	0.42	0.05	(0.04)
Matrona	646	0.14	-0.05*	(0.03)

Note: Columns (1) reports number of observations. Column (2) reports sample mean of the pro-social message group. Column (3) reports estimates for the treatment indicator variable. Robust standard errors at neighborhood level are reported in parentheses in column (4).*** p<0.01, ** p<0.05, * p<0.1.

Table C-3: Characteristics of THPs by recruitment message. Restricted to those contacted for the phone behavioral measurement.

	obs.	Message		
		Pro-social mean	Pro-business diff. (s.e.)	
	(1)	(2)	(3)	(4)
Demographics				
Male	849	0.70	0.10***	(0.03)
Age (time of interview)	832	54.83	0.51	(0.96)
Muslim	849	0.91	-0.02	(0.02)
Fula	857	0.76	-0.08**	(0.03)
Mandinga	857	0.13	0.01	(0.02)
Balanta	857	0.05	0.02	(0.02)
Born in the village	849	0.60	-0.00	(0.03)
No school years completed	849	0.69	0.04	(0.03)
Completed 4 years of schooling	849	0.16	0.00	(0.03)
Works in agriculture	841	0.64	-0.02	(0.03)
Has at least one contact number	848	0.85	0.01	(0.02)
Distance to nearest Health Center (min)	75	34.05	-5.34	(8.98)
Practices and knowledge				
Treats pregnant women	849	0.56	-0.07**	(0.03)
Treats malaria	849	0.12	-0.00	(0.02)
Refers patients to other individuals or institutions	838	0.62	-0.03	(0.03)
Collaborates with CHWs	838	0.30	-0.03	(0.03)
Health practices test score (0-18)	271	13.61	0.13	(0.31)
Receive more than 5 patients per week	804	0.40	0.04	(0.03)
Average medical treatment fees (XOF)	792	6344.65	1351.61	(1444.53)
THP type				
Mouro	849	0.45	-0.02	(0.03)
Djambaco	849	0.05	0.00	(0.02)
Curandeiro	849	0.38	0.10***	(0.03)
Matrona	849	0.22	-0.09***	(0.03)

Note: Columns (1) reports number of observations. Column (2) reports sample mean of the pro-social message group. Column (3) reports estimates for the treatment indicator variable. Robust standard errors at neighborhood level are reported in parentheses in column (4).*** p<0.01, ** p<0.05, * p<0.1.

Table C-4: Characteristics of THPs by recruitment message. Restricted to those contacted in the follow-up survey.

	obs.	Message		
		Pro-social mean	Pro-business diff. (s.e.)	
	(1)	(2)	(3)	(4)
Demographics				
Male	392	0.76	0.04	(0.04)
Age (time of interview)	386	57.12	-1.63	(1.37)
Muslim	392	0.92	-0.00	(0.03)
Fula	392	0.75	-0.01	(0.04)
Mandinga	392	0.17	-0.03	(0.04)
Balanta	392	0.04	-0.01	(0.02)
Born in the village	392	0.66	-0.04	(0.05)
No school years completed	392	0.73	-0.01	(0.05)
Completed 4 years of schooling	392	0.12	0.02	(0.03)
Works in agriculture	391	0.61	0.04	(0.05)
Has at least one contact number	392	0.87	-0.02	(0.04)
Distance to nearest Health Center (min)	106	35.23	-5.10	(6.26)
Practices and knowledge				
Treats pregnant women	392	0.53	-0.06	(0.05)
Treats malaria	392	0.17	-0.05	(0.04)
Refers patients to other individuals or institutions	389	0.60	-0.00	(0.05)
Collaborates with CHWs	388	0.32	-0.02	(0.05)
Health practices test score (0-18)	392	13.66	0.11	(0.26)
Receive more than 5 patients per week	376	0.51	-0.09*	(0.05)
Average medical treatment fees (XOF)	370	6830.92	70.61	(2290.65)
THP type				
Mouro	392	0.41	0.03	(0.05)
Djambaco	392	0.02	0.01	(0.02)
Curandeiro	392	0.48	0.02	(0.05)
Matrona	392	0.16	-0.01	(0.04)

Note: Columns (1) reports number of observations. Column (2) reports sample mean of the pro-social message group. Column (3) reports estimates for the treatment indicator variable. Robust standard errors at neighborhood level are reported in parentheses in column (4).*** p<0.01, ** p<0.05, * p<0.1.

Table C-5: Characteristics of THPs by recruitment message. Restricted to those selected for the THP program.

	obs.	Message		
		Pro-social mean	Pro-business diff.	(s.e.)
	(1)	(2)	(3)	(4)
Demographics				
Male	107	0.69	0.16**	(0.08)
Age (time of interview)	104	57.67	-2.21	(2.81)
Muslim	107	0.90	0.02	(0.05)
Fula	107	0.73	-0.02	(0.09)
Mandinga	107	0.15	0.03	(0.07)
Balanta	107	0.04	0.02	(0.04)
Born in the village	107	0.56	0.08	(0.10)
No school years completed	107	0.83	-0.12	(0.08)
Completed 4 years of schooling	107	0.10	-0.01	(0.06)
Works in agriculture	107	0.62	0.08	(0.09)
Has at least one contact number	107	0.83	0.05	(0.07)
Distance to nearest Health Center (min)	106	35.23	-5.10	(6.26)
Practices and knowledge				
Treats pregnant women	107	0.50	-0.05	(0.10)
Treats malaria	107	0.15	-0.01	(0.07)
Refers patients to other individuals or institutions	107	0.62	-0.05	(0.10)
Collaborates with CHWs	107	0.27	0.02	(0.09)
Health practices test score (0-18)	107	13.65	-0.09	(0.50)
Receive more than 5 patients per week	102	0.51	-0.00	(0.10)
Average medical treatment fees (XOF)	101	6010.82	1002.65	(2276.31)
THP type				
Mouro	107	0.40	0.09	(0.10)
Djambaco	107	0.04	-0.02	(0.03)
Curandeiro	107	0.46	0.05	(0.10)
Matrona	107	0.15	-0.04	(0.07)

Note: Columns (1) reports number of observations. Column (2) reports sample mean of the pro-social message group. Column (3) reports estimates for the treatment indicator variable. Robust standard errors at neighborhood level are reported in parentheses in column (4).*** p<0.01, ** p<0.05, * p<0.1.

Table C-6: Linear Probability Model - Correlates of being interviewed in the reinforcement phone survey.

	coef.	(s.e.)	Pro-business message interaction	
			coef.	(s.e.)
	(1)	(2)	(3)	(4)
Pro-business message	-0.206	(0.229)		
Male	-0.033	(0.077)	0.026	(0.113)
Age (time of interview)	-0.001	(0.001)	0.001	(0.002)
Muslim	-0.018	(0.133)	0.139	(0.181)
Fula	0.079	(0.115)	-0.279**	(0.135)
Mandinga	0.169	(0.120)	-0.287**	(0.144)
Balanta	0.158	(0.124)	-0.070	(0.183)
Born in the village	0.063	(0.044)	-0.035	(0.060)
No school years completed	-0.145**	(0.060)	0.095	(0.085)
Completed 4 years of schooling	-0.033	(0.080)	0.052	(0.110)
Works in agriculture	0.009	(0.045)	0.060	(0.057)
Treats pregnant women	0.498***	(0.034)	-0.002	(0.046)
Treats malaria	0.610***	(0.060)	0.018	(0.081)
Refers patients to other individuals or institutions	-0.052	(0.049)	-0.015	(0.063)
Collaborates with CHWs	-0.032	(0.066)	0.046	(0.087)
Receive more than 5 patients per week	0.100**	(0.046)	-0.113*	(0.061)
Average medical treatment fees (XOF)	-0.007	(0.043)	-0.000	(0.060)
Mouro	0.024	(0.044)	-0.006	(0.059)
Djambaco	-0.000	(0.000)	0.000	(0.000)
Curandeiro	-0.059	(0.072)	0.261***	(0.094)
Matrona	0.031	(0.126)	-0.001	(0.167)
Provided a personal contact number	-0.100	(0.064)	0.204**	(0.087)
Provided two personal contact numbers	-0.079	(0.099)	0.287*	(0.148)
Observations	1201			
R ²	0.246			
Mean (outcome)	0.463			
Joint significance test (pvalue)	0.000		0.516	

Note: Column (1) reports the estimated coefficients for each variable included in the model, while Column (3) presents the estimated coefficients for their interaction with an indicator variable for assignment to the pro-business message. Robust standard errors are shown in parentheses in Columns (2) and (4). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table C-7: Linear Probability Model - Correlates of being contacted in the phone behavioral measurement.

	coef.	(s.e.)	Pro-business message interaction	
			coef.	(s.e.)
	(1)	(2)	(3)	(4)
Pro-business message	-0.190	(0.236)		
Male	-0.083	(0.094)	-0.019	(0.129)
Age (time of interview)	-0.001	(0.001)	0.001	(0.002)
Muslim	-0.273**	(0.127)	0.363**	(0.169)
Fula	0.298***	(0.099)	-0.429***	(0.124)
Mandinga	0.141	(0.109)	-0.347**	(0.139)
Balanta	0.061	(0.126)	0.132	(0.174)
Born in the village	0.014	(0.047)	-0.007	(0.063)
No school years completed	-0.216***	(0.060)	0.281***	(0.084)
Completed 4 years of schooling	0.012	(0.074)	0.138	(0.105)
Works in agriculture	-0.010	(0.048)	0.049	(0.061)
Treats pregnant women	0.050	(0.058)	-0.005	(0.084)
Treats malaria	0.180**	(0.074)	0.037	(0.105)
Refers patients to other individuals or institutions	-0.047	(0.050)	-0.066	(0.065)
Collaborates with CHWs	0.044	(0.064)	-0.025	(0.086)
Receive more than 5 patients per week	-0.017	(0.047)	0.055	(0.062)
Average medical treatment fees (XOF)	0.012	(0.047)	-0.017	(0.065)
Mouro	0.008	(0.046)	0.035	(0.062)
Djambaco	0.000	(0.000)	-0.000	(0.000)
Curandeiro	0.088	(0.073)	-0.063	(0.095)
Matrona	0.155	(0.145)	-0.147	(0.175)
Provided a personal contact number	-0.004	(0.068)	0.037	(0.090)
Provided two personal contact numbers	0.148	(0.116)	-0.172	(0.164)
Observations	1201			
R ²	0.101			
Mean (outcome)	0.612			
Joint significance test (pvalue)	0.000		0.010	

Note: Column (1) reports the estimated coefficients for each variable included in the model, while Column (3) presents the estimated coefficients for their interaction with an indicator variable for assignment to the pro-business message. Robust standard errors are shown in parentheses in Columns (2) and (4). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table C-8: Linear Probability Model - Correlates of being interviewed in the follow-up survey.

	coef.	(s.e.)	Pro-business message interaction	
			coef.	(s.e.)
	(1)	(2)	(3)	(4)
Pro-business message	0.164	(0.225)		
Male	-0.026	(0.094)	0.036	(0.128)
Age (time of interview)	0.002	(0.001)	-0.002	(0.002)
Muslim	-0.052	(0.140)	0.010	(0.187)
Fula	0.125	(0.096)	-0.089	(0.125)
Mandinga	0.137	(0.106)	-0.142	(0.138)
Balanta	0.080	(0.141)	-0.128	(0.191)
Born in the village	0.043	(0.044)	-0.015	(0.060)
No school years completed	-0.060	(0.060)	0.016	(0.086)
Completed 4 years of schooling	-0.069	(0.075)	0.025	(0.107)
Works in agriculture	0.045	(0.044)	0.051	(0.057)
Treats pregnant women	0.046	(0.050)	-0.066	(0.073)
Treats malaria	0.010	(0.070)	-0.037	(0.098)
Refers patients to other individuals or institutions	-0.005	(0.046)	-0.047	(0.062)
Collaborates with CHWs	0.075	(0.064)	-0.092	(0.088)
Receive more than 5 patients per week	-0.031	(0.045)	0.050	(0.060)
Average medical treatment fees (XOF)	0.064	(0.044)	-0.012	(0.062)
Mouro	0.095**	(0.045)	-0.099	(0.061)
Djambaco	0.000	(0.000)	-0.000	(0.000)
Curandeiro	-0.081	(0.071)	0.151	(0.092)
Matrona	-0.181*	(0.098)	-0.021	(0.127)
Provided a personal contact number	0.017	(0.061)	0.046	(0.082)
Provided two personal contact numbers	-0.059	(0.108)	0.134	(0.156)
Observations	1201			
R ²	0.069			
Mean (outcome)	0.283			
Joint significance test (pvalue)	0.060		0.704	

Note: Column (1) reports the estimated coefficients for each variable included in the model, while Column (3) presents the estimated coefficients for their interaction with an indicator variable for assignment to the pro-business message. Robust standard errors are shown in parentheses in Columns (2) and (4). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table C-9: Linear Probability Model - Correlates of being selected to the THP program.

	coef.	(s.e.)	Pro-business message interaction	
			coef.	(s.e.)
	(1)	(2)	(3)	(4)
Pro-business message	-0.107	(0.139)		
Male	-0.063	(0.071)	0.100	(0.083)
Age (time of interview)	0.001	(0.001)	-0.001	(0.001)
Muslim	0.007	(0.105)	0.007	(0.132)
Fula	0.022	(0.058)	0.003	(0.068)
Mandinga	0.012	(0.062)	0.049	(0.078)
Balanta	0.010	(0.125)	0.091	(0.151)
Born in the village	-0.008	(0.030)	-0.009	(0.038)
No school years completed	0.021	(0.031)	-0.064	(0.052)
Completed 4 years of schooling	0.000	(0.042)	-0.055	(0.065)
Works in agriculture	0.003	(0.028)	0.037	(0.035)
Treats pregnant women	-0.008	(0.035)	0.017	(0.045)
Treats malaria	0.008	(0.045)	-0.064	(0.058)
Refers patients to other individuals or institutions	-0.021	(0.029)	-0.005	(0.038)
Collaborates with CHWs	0.017	(0.037)	-0.012	(0.053)
Receive more than 5 patients per week	-0.028	(0.026)	0.018	(0.036)
Average medical treatment fees (XOF)	0.008	(0.025)	0.009	(0.036)
Mouro	0.036	(0.027)	-0.016	(0.038)
Djambaco	-0.000	(0.000)	-0.000	(0.000)
Curandeiro	-0.040	(0.042)	0.092	(0.056)
Matrona	0.000	(0.098)	-0.051	(0.104)
Provided a personal contact number	-0.014	(0.033)	0.050	(0.046)
Provided two personal contact numbers	-0.079	(0.075)	0.133	(0.095)
Observations	1201			
R ²	0.037			
Mean (outcome)	0.084			
Joint significance test (pvalue)	0.939		0.819	

Note: Column (1) reports the estimated coefficients for each variable included in the model, while Column (3) presents the estimated coefficients for their interaction with an indicator variable for assignment to the pro-business message. Robust standard errors are shown in parentheses in Columns (2) and (4). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table C-10: Comparison OLS and IPW estimates

	OLS			IPW		
	obs.	coef.	s.e.	obs.	coef.	s.e.
	(1)	(2)	(3)	(4)	(5)	(6)
Phone behavioral measurement tracking survey						
Called the program	849	0.07**	(0.03)	823	0.06*	(0.03)
Phone reinforcement survey						
Level of interest	596	0.01	(0.01)	540	0.01	(0.01)
Shows high interest	596	-0.01	(0.02)	540	-0.01	(0.02)
Participating in this initiative will improve:						
lives in the community	601	-0.02*	(0.01)	545	-0.01	(0.01)
the well-being of people	601	-0.02	(0.01)	545	-0.01	(0.01)
my profit	601	0.05***	(0.01)	545	0.06***	(0.02)
my business	601	0.05***	(0.01)	545	0.05***	(0.02)
Expect a greater impact on business than on health	627	0.18***	(0.03)	567	0.14***	(0.03)
Self-reported message understanding	601	0.01	(0.01)	545	0.00	(0.01)
Answers correctly a question about:						
Duration	601	0.08**	(0.04)	545	0.07	(0.05)
Incentives	601	-0.03	(0.03)	545	-0.05	(0.04)
Face-to-face follow-up survey						
Willingness to participate in a meeting:						
Bid above zero	386	0.02	(0.02)	363	0.02	(0.02)
Bid equal to 3000 XOF	392	-0.00	(0.04)	369	0.02	(0.05)
Bid reported (winsorized 1%)	386	189.56	(510.91)	363	372.11	(516.50)

Note: Results in columns 1-3 based on OLS regressions using equation 1. Columns 4-6 present results from IPW regressions, incorporating sample weights in equation 1. Controls are the same as before. Robust standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

D Auxiliary results

Table D-1: Interest in participating in the program.

	Behavioral measure	Face-to-face census		Phone reinforcement		Administrative data
	Call the program	Level of interest 5-likert scale (rescaled)	Show high interest	Level of interest 5-likert scale (rescaled)	Showing high interest	Attended the training
	(1)	(2)	(3)	(4)	(5)	(6)
Pro-business message	0.069** (0.033)	0.006 (0.007)	0.019 (0.020)	0.011 (0.011)	-0.005 (0.024)	0.247** (0.103)
Observations	849	1354	1354	596	596	107
R ²	0.091	0.180	0.193	0.149	0.048	0.304
Mean (pro-social)	0.34	0.77	0.79	0.85	0.91	0.38

Note: Estimates based on OLS regressions using equation 1. Outcome in (1) is a binary variable equal to one if the THP call the program in March 2024 to show interest in participating in the program. Outcomes in (2)-(5) are taken from questions employing a 5-point Likert scale. Depending on the column, the dependent variables are measured using the following questions: (2)-(3) ‘How interested would you be in participating in the initiative mentioned in the video?’; (4)-(5) ‘What is your level of interest in participating in the mentioned initiative?’. In columns (2) and (4) we rescale the outcome in between 0 and 1. The proportion of THPs showing high interest employs as high interest categories 4 and 5 in the Likert scale. All specifications include health area fixed effects, indicator variables for whether the THP is a male, for whether the THP is fula, mandinga, or balanta, for whether the THP is a djambaco, a mouro, a matrona, or a curandeiro, and for whether the THP has no education. Robust standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table D-2: Expectations on program benefits.

	Participating in this initiative will improve				Expect greater impact on business than on village health
	Lives in the community	Well-being of people	My profit	My business	
	(1)	(2)	(3)	(4)	(5)
Pro-business message	-0.021* (0.012)	-0.018 (0.012)	0.054*** (0.014)	0.046*** (0.014)	0.175*** (0.030)
Observations	601	601	601	601	627
R ²	0.078	0.083	0.104	0.135	0.094
Mean (pro-social)	0.77	0.77	0.68	0.69	0.10

Note: Estimates based on OLS regressions using equation 1. Outcomes in (1)-(4) are taken from questions employing 4-point Likert scales. They are rescaled in between 0 and 1. Depending on the column, the dependent variables capture to what extent the THP agreed or disagreed with the following statements: (1) 'Participating in this initiative will save more lives in my community.'; (2) 'Participating in this initiative will improve the well-being of people in my community.'; (3) 'Participating in this initiative will increase my profit.'; (4) 'Participating in this initiative will enhance the success of my business.'. The outcome in (5) is a binary variable that equals 1 for THPs who believe this initiative will have a stronger impact on improving their business and increasing their profit compared to improving the lives of people in their community and reducing mortality. All specifications include health area fixed effects, indicator variables for whether the THP is a male, for whether the THP is fula, mandinga, or balanta, for whether the THP is a djambaco, a mouro, a matrona, or a curandeiro, and for whether the THP has no education.*** p<0.01, ** p<0.05, * p<0.1.

Table D-3: Understanding the messages.

	Face-to-face census	Phone reinforcement survey		
	Self-reported message understanding 3-Likert scale (rescaled)	Self-reported message understanding 3-Likert scale (rescaled)	THPs answering correctly a question on project's Duration Incentives	
	(1)	(2)	(3)	(4)
Pro-business message	0.007 (0.009)	0.006 (0.012)	0.077** (0.039)	-0.027 (0.034)
Observations	1356	601	601	601
R ²	0.292	0.136	0.126	0.069
Mean (pro-social)	0.80	0.90	0.37	0.78

Note: Estimates based on OLS regressions using equation 1. Outcomes in (1)-(2) are taken from questions employing a 3-point Likert scale. Depending on the column, the dependent variables are measured using the following questions: (1) 'How well did you understand the message of the video?'; (2) 'How well did you understand the message?'. In columns (1) and (2) we rescale the outcome in between 0 and 1. The outcome in (3) is a binary variable equal to one if the respondent provided the correct answer to the question: 'What is the expected duration of this initiative?'. The outcome in (4) is a binary variable equal to one if the respondent correctly answered the question: 'What do you expect to receive for participating in this initiative?'. All specifications include health area fixed effects, indicator variables for whether the THP is a male, for whether the THP is fula, mandinga, or balanta, for whether the THP is a djambaco, a mouro, a matrona, or a curandeiro, and for whether the THP has no education. Proportion of THPs showing high interest employs as high interest categories 4 and 5 in the Likert scale. Robust standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table D-4: Willingness to meet with the formal health system.

	Willingness to participate in a meeting		
	Bid above zero	Bid equal to 3000 XOF	Bid reported (winsorized 1%)
	(1)	(2)	(3)
Pro-business message	0.020 (0.018)	-0.018 (0.043)	168.962 (518.241)
Observations	379	379	379
R ²	0.054	0.138	0.087
Mean (pro-social)	0.97	0.77	4687.15

Note: Estimates based on OLS regressions using equation 1. Outcomes in (1)-(2) are binary variables for bidding above zero or bidding the highest possible level. The outcome in (3) is the bid (winsorized at the 1 percent level). See the text of the paper for more details. All specifications include health area fixed effects, indicator variables for whether the THP is a male, for whether the THP is fula, mandinga, or balanta, for whether the THP is a djambaco, a mouro, a matrona, or a curandeiro, and for whether the THP has no education. Proportion of THPs showing high interest employs as high interest categories 4 and 5 in the Likert scale. Robust standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table D-5: Heterogeneous effects: Gender.

	Male THP			Female THP			p-value (2)=(5)
	obs.	coef.	s.e.	obs.	coef.	s.e.	
	(1)	(2)	(3)	(4)	(5)	(6)	
Called the program	637	0.06	(0.04)	212	0.11*	(0.06)	0.480
Level of interest							
Face-to-face census	1016	0.01	(0.01)	338	0.01	(0.01)	0.951
Phone reinforcement	497	0.00	(0.01)	99	0.07**	(0.03)	0.023**
Participating in this initiative will improve:							
lives in the community	500	-0.03**	(0.01)	101	0.01	(0.03)	0.263
well-being of people	500	-0.02*	(0.01)	101	0.01	(0.03)	0.271
my profit	500	0.04***	(0.02)	101	0.11***	(0.04)	0.086*
my business	500	0.04**	(0.02)	101	0.11***	(0.04)	0.055*
Expect greater impact on business than on health	524	0.19***	(0.03)	103	0.07	(0.10)	0.221
Self-reported message understanding							
Face-to-face census	1018	0.01	(0.01)	338	-0.00	(0.02)	0.404
Phone reinforcement	500	0.00	(0.01)	101	0.02	(0.04)	0.682
Willingness to participate in a meeting:							
Bid equal to 3000 XOF	308	-0.00	(0.05)	84	-0.08	(0.11)	0.485
Bid reported (winsorized 1%)	303	259.09	(639.99)	83	-520.81	(651.75)	0.379

Note: Estimates are based on OLS regressions using equation 1. Columns 1–3 show results for male THPs. Columns 4–6 present results for female THPs. The last column reports the p-value for the difference between the coefficients in Columns (2) and (5). Control variables remain the same as in previous specifications. Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table D-6: Heterogeneous effects: Age.

	Under 57 years of age			Over 57 years of age			p-value (2)=(5)
	obs.	coef.	s.e.	obs.	coef.	s.e.	
	(1)	(2)	(3)	(4)	(5)	(6)	
Called the program	455	0.09*	(0.05)	377	0.04	(0.05)	0.508
Level of interest							
Face-to-face census	681	0.00	(0.01)	643	0.00	(0.01)	0.966
Phone reinforcement	329	0.01	(0.01)	257	0.01	(0.02)	0.982
Participating in this initiative will improve:							
lives in the community	332	-0.03**	(0.02)	259	-0.01	(0.02)	0.273
well-being of people	332	-0.02	(0.02)	259	-0.01	(0.02)	0.483
my profit	332	0.06***	(0.02)	259	0.05**	(0.02)	0.720
my business	332	0.06***	(0.02)	259	0.04	(0.02)	0.482
Expect greater impact on business than on health	347	0.14***	(0.04)	270	0.21***	(0.05)	0.320
Self-reported message understanding							
Face-to-face census	682	0.00	(0.01)	644	0.01	(0.01)	0.632
Phone reinforcement	332	0.00	(0.02)	259	0.02	(0.02)	0.437
Willingness to participate in a meeting:							
Bid equal to 3000 XOF	197	0.00	(0.06)	189	-0.04	(0.06)	0.628
Bid reported (winsorized 1%)	193	572.37	(984.91)	187	-533.81	(523.81)	0.322

Note: Estimates are based on OLS regressions using equation 1. Columns 1–3 show results for THPs under 57 years of age (the median age in the sample). Columns 4–6 present results for THPs aged 57 and above. The last column reports the p-value for the difference between the coefficients in Columns (2) and (5). Control variables remain the same as in previous specifications. Robust standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table D-7: Heterogeneous effects: Type of THP.

	Non-religious/non-spiritual THPs			Religious/spiritual THPs			p-value (2)=(5)
	obs.	coef.	s.e.	obs.	coef.	s.e.	
	(1)	(2)	(3)	(4)	(5)	(6)	
Called the program	515	0.12***	(0.04)	334	-0.01	(0.06)	0.057*
Level of interest							
Face-to-face census	827	-0.00	(0.01)	527	0.02	(0.01)	0.219
Phone reinforcement	328	0.04**	(0.02)	268	-0.02	(0.02)	0.022**
Participating in this initiative will improve:							
lives in the community	332	-0.01	(0.02)	269	-0.04**	(0.02)	0.250
well-being of people	332	-0.00	(0.02)	269	-0.04**	(0.02)	0.164
my profit	332	0.06***	(0.02)	269	0.05**	(0.02)	0.726
my business	332	0.05***	(0.02)	269	0.04**	(0.02)	0.737
Expect greater impact on business than on health	342	0.21***	(0.04)	285	0.15***	(0.05)	0.421
Self-reported message understanding							
Face-to-face census	827	-0.00	(0.01)	529	0.03**	(0.01)	0.063*
Phone reinforcement	332	0.02	(0.02)	269	0.00	(0.02)	0.587
Willingness to participate in a meeting:							
Bid equal to 3000 XOF	251	-0.02	(0.06)	141	0.02	(0.07)	0.672
Bid reported (winsorized 1%)	248	-302.09	(721.70)	138	772.47	(869.53)	0.338

Note: Estimates based on OLS regressions using equation 1. Columns 1–3 show results for non-religious and non-spiritual THPs. Columns 4–6 display results for religious and spiritual THPs. The last column reports the p-value for the difference between coefficients in columns (2) and (5). Controls are the same as before. Robust standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table D-8: Heterogeneous effects: Previous collaboration with CHWs.

	Prior collaboration			No prior collaboration			p-value (2)=(5)
	obs.	coef.	s.e.	obs.	coef.	s.e.	
	(1)	(2)	(3)	(4)	(5)	(6)	
Called the program	238	0.19***	(0.07)	600	0.03	(0.04)	0.034**
Level of interest							
Face-to-face census	379	0.02	(0.01)	955	0.00	(0.01)	0.271
Phone reinforcement	157	0.01	(0.02)	431	0.00	(0.01)	0.690
Participating in this initiative will improve:							
lives in the community	157	-0.03	(0.02)	436	-0.02	(0.01)	0.710
well-being of people	157	-0.03	(0.02)	436	-0.01	(0.01)	0.541
my profit	157	0.05*	(0.03)	436	0.05***	(0.02)	0.948
my business	157	0.08***	(0.02)	436	0.03*	(0.02)	0.117
Expect greater impact on business than on health	162	0.13**	(0.06)	456	0.19***	(0.04)	0.427
Self-reported message understanding							
Face-to-face census	379	0.01	(0.02)	956	0.01	(0.01)	0.871
Phone reinforcement	157	0.04*	(0.03)	436	-0.01	(0.01)	0.066*
Willingness to participate in a meeting:							
Bid equal to 3000 XOF	118	0.16**	(0.08)	270	-0.08	(0.05)	0.012**
Bid reported (winsorized 1%)	114	1897.48*	(1060.14)	268	-551.35	(604.98)	0.039**

Note: Estimates based on OLS regressions using equation 1. Columns 1–3 show results for individuals with prior collaboration with other CHWs. Columns 4–6 display results for those without prior collaboration. The last column reports the p-value for the difference between coefficients in columns (2) and (5). Controls are the same as before. Robust standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table D-9: Heterogeneous effects: Previous collaboration with other THPs.

	Prior collaboration			No prior collaboration			p-value (2)=(5)
	obs.	coef.	s.e.	obs.	coef.	s.e.	
	(1)	(2)	(3)	(4)	(5)	(6)	
Called the program	344	0.09	(0.06)	381	0.13***	(0.05)	0.574
Level of interest							
Face-to-face census	532	0.00	(0.01)	603	0.02	(0.01)	0.440
Phone reinforcement	210	0.00	(0.02)	297	0.00	(0.02)	0.980
Participating in this initiative will improve:							
lives in the community	212	0.00	(0.02)	299	-0.04**	(0.02)	0.128
well-being of people	212	-0.00	(0.02)	299	-0.03	(0.02)	0.380
my profit	212	0.05**	(0.02)	299	0.02	(0.02)	0.267
my business	212	0.05**	(0.02)	299	-0.00	(0.02)	0.094*
Expect greater impact on business than on health	222	0.21***	(0.05)	311	0.13***	(0.05)	0.258
Self-reported message understanding							
Face-to-face census	533	-0.03*	(0.01)	603	0.04***	(0.01)	0.001***
Phone reinforcement	212	-0.01	(0.02)	299	0.05***	(0.02)	0.029**
Willingness to participate in a meeting:							
Bid equal to 3000 XOF	138	-0.00	(0.08)	183	-0.07	(0.07)	0.552
Bid reported (winsorized 1%)	134	-131.74	(1024.64)	182	194.36	(641.48)	0.785

Note: Estimates based on OLS regressions using equation 1. Columns 1–3 show results for individuals with prior collaboration with other THPs. Columns 4–6 display results for those without prior collaboration. The last column reports the p-value for the difference between coefficients in columns (2) and (5). Controls are the same as before. Robust standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table D-10: Comparison with Post-Double Selection LASSO

	Benchmark			Post-double selection lasso		
	obs.	coef.	s.e.	obs.	coef.	s.e.
	(1)	(2)	(3)	(4)	(5)	(6)
Phone behavioral measurement tracking survey						
Called the program	849	0.07**	(0.03)	857	0.06*	(0.03)
THP training program:						
Attended the THP training in December, 2024	107	0.25**	(0.10)	107	0.26***	(0.09)
Phone reinforcement survey						
Level of interest	596	0.01	(0.01)	605	0.01	(0.01)
Shows high interest	596	-0.01	(0.02)	605	-0.01	(0.02)
Participating in this initiative will improve:						
lives in the community	601	-0.02*	(0.01)	610	-0.03**	(0.01)
the well-being of people	601	-0.02	(0.01)	610	-0.02	(0.01)
my profit	601	0.05***	(0.01)	610	0.06***	(0.01)
my business	601	0.05***	(0.01)	610	0.05***	(0.01)
Expect a greater impact on business than on health	627	0.18***	(0.03)	636	0.17***	(0.03)
Self-reported message understanding	601	0.01	(0.01)	610	0.01	(0.01)
Answers correctly a question about:						
Duration	601	0.08**	(0.04)	610	0.09**	(0.04)
Incentives	601	-0.03	(0.03)	610	-0.02	(0.03)
Face-to-face follow-up survey						
Willingness to participate in a meeting:						
Bid above zero	386	0.02	(0.02)	386	0.02	(0.02)
Bid equal to 3000 XOF	392	-0.00	(0.04)	392	0.00	(0.04)
Bid reported (winsorized 1%)	386	189.56	(510.91)	386	330.77	(500.33)

Note: Results in columns 1-3 based on OLS regressions using equation 1. Controls are the same as before. Columns 4-6 present results based on OLS regressions using equation 1, and selecting the controls using Post-Double Lasso procedure. Robust standard errors are reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

E Script Willingness to Pay

The goal of this exercise is to assess your willingness to pay for eligibility to participate in a meeting with representatives from the Ministry of Health and the Association of Traditional Healers as part of this pilot initiative promoting collaboration between community health and traditional medicine. This assessment reflects the maximum amount you, as a Traditional Health Practitioner, would be willing to pay for the chance to attend this meeting. The meeting will take place in Bafatá, with the date yet to be determined. Consider the following scenario: there is an opportunity to attend a meeting in person with representatives from the Ministry of Health and the Association of Traditional Healers to discuss this initiative aimed at integrating traditional health practices with modern medical strategies. Before knowing all potential benefits, consider the maximum amount you would contribute solely for eligibility to participate. If unavailable on the set date, you may send a substitute. We will proceed as follows: you have an endowment of 3,000 XOF [Money Handed Over].

Initial Evaluation:

- Reflect on the maximum amount you would be comfortable paying for being eligible to participate in a meeting with representatives from the Ministry of Health and the Association of Traditional Healers. You may offer more than 3,000 XOF by adding money from your own funds.

Evaluation Series:

- We will present a range of possible payment amounts from 0 XOF to 3,000 XOF, increasing in increments of 250 XOF.
- For each amount, indicate whether you would be willing to pay that cost for eligibility.
- If you reach an amount you are no longer willing to pay, simply say "no." The maximum amount considered will be the last value you agreed to pay.
- If you reach 3,000 XOF, you will also have the option to offer a higher amount if interested.

Payment Determination:

- After making your decisions, we will show you a price randomly selected between 0 and 3,000 XOF [Show Envelope]. This price is predetermined by a computer and unknown to us, ensuring impartiality.
- If the maximum amount you declared is higher than the price in the envelope, you must pay the price indicated in the envelope to be eligible for the meeting. We will ask you to pay this amount and record your name for the guest list.
- If the maximum amount you declared is lower than the price in the envelope, you will not be eligible for the second phase of this initiative.
- This method ensures you will not pay more than your true valuation for participating in the initiative and possibly less, depending on the random price revealed in the envelope.

Multiple Price List:

- Would you be interested in participating in a meeting with the Ministry of Health as part of this pilot initiative promoting collaboration between community health and traditional medicine if you did not have to pay anything (0 XOF) to be eligible?
- Are you sure you do not want to participate, even for free?
- You stated that you are not willing to participate, even for free. Could you tell us why?
- If yes: Would you be willing to participate in a meeting with the Ministry of Health as part of this pilot initiative to promote collaboration between community health and traditional medicine if you had to pay 250 XOF to be eligible?
- Are you sure you do not want to participate at a cost of 250 XOF?
- ...
- If yes: Would you be willing to participate in a meeting with the Ministry of Health as part of this pilot initiative to promote collaboration between community health and traditional medicine if you had to pay 3,000 XOF to be eligible?

- Are you sure you do not want to participate at a cost of 3,000 XOF?
- If yes: Would you be willing to pay more than 3,000 XOF to be eligible to participate in a meeting with the Ministry of Health as part of this pilot initiative promoting collaboration between community health and traditional medicine?
- How much would you be willing to pay? Please note that any amount exceeding 3,000 XOF would need to be supplemented with your own funds.